

Yoichi YUZAWA* & Sinske HATTORI**: A new species
of *Frullania* (Hepaticae) from Brazil

湯澤陽一*・服部新佐**: ブラジル産ヤスデゴケ属(苔類)の一新種

Mr. Alfons Schäfer-Verwimp kindly sent us his *Frullania* collection made by his wife and himself in Brazil, in which we found a remarkable new species of subgen. *Frullania* sect. *Tamariscineae* ser. *Fragilifoliae* (ser. nov.)¹⁾. We know no species of the same series with scattered ocelli in all the leaf-lobes, -lobules, and underleaves.

***Frullania* (*Frullania*) *schaefer-verwimpii* Yuzawa & Hatt., sp. nov.**

A *Frullania punctata* Reim. differt ocellis dispersis in lobis et lobulis foliorum, amphigastriis, bracteis et bracteolis (♀ et ♂).

Plant small, dark reddish-brown in herb., creeping on bark of trees; stem ca 1.5 cm long, 0.09–0.1 mm in diam., nearly regularly pinnately or rarely bipinnately branched, branches obliquely spreading, less than 5 mm long. Lobes of stem-leaves imbricate, widely spreading, dorsally 1/2 to almost fully covering the stem, nearly flat, more or less caducous, widely obovate to obovate-orbicular with widely rounded apices, ±cuneate below (with truncate bases), 0.30–0.33 mm long and 0.28–0.33 mm wide; cavities of marginal cells 10–12.5×8.8–12.5 μm, of median cells 12.5–15×12.5–15 μm, of basal cells 20–25×15–17.5 μm, pale yellowish-olive, cell-walls ±pale yellowish-brown to -reddish, thin, trigones small, indistinct, intermediate thickenings almost lacking; dispersed ocelli distinct, 6–18 per lobe, reddish, as large as or larger than the neighboring cells. Lobules of stem-leaves clavate, parallel with the stem, ca 0.18 mm long and 0.09 mm wide, with 2–3 dispersed ocelli, mouths arched, smooth. Styli minute, filiform composed of a row of 3–4 uniseriate cells. Stem-underleaves contiguous to somewhat imbricate, flat and appressed to the stem, narrowly cuneate-obovate,

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1) A *Tamariscineis* Gott. et al. differt planta multo minore, lobis foliorum fere orbicularibus, apice rotundato vel late obtuso, ocellis dispersis, rarius breviter moniliatis, amphigastriis minoribus, caule 1–1.5-plo latioribus.

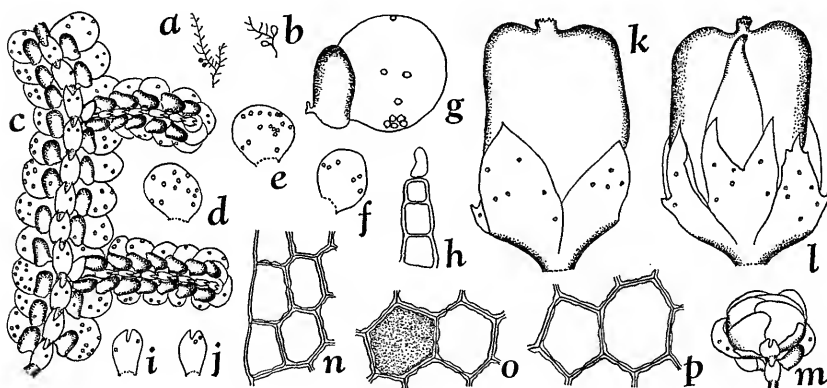


Fig. 1. *Frullania schaefer-verwimpitii* Yuzawa & Hatt. a-b. Branching, open ellipses representing gynoecia, and dots androecia, both $\times 0.6$. c. Portion of plant, $\times 24$. d-g. Stem leaves, d-f $\times 24$, g $\times 60$. h. Stylus, $\times 240$. i-j. Stem-underleaves, both $\times 24$. k-l. Perianth with bracts and bracteole, k dorsal view, l ventral view, both $\times 24$. m. Androecium, $\times 24$. n-p. Cells of lobe of stem-leaf, n from margin, o from middle (left one showing ocellus), p from base, all $\times 480$. All drawn from type (NICH).

slightly wider than stem, $1/3$ (or less) bifid, sinuses narrowly triangular, lobes subtriangular with acute or subacute apices and entire margins, 2-3 dispersed ocelli seen. Lobes of branch-leaves smaller than those of stem-leaves, more closely imbricate, the lobules imbricate and incumbent to the branch with heads. Branch-underleaves narrowly oblong-ovate, slightly wider than (or nearly as wide as) the branch.

Dioicous. Gynoecium terminal on stem or leading branch, with innovation below, the innovation again floriferous or branched; bracts in ca 3 pairs; innermost bract-lobe oblong-ovate, with acute (or \pm acuminate) apex and entire margin, ca 0.75 mm long and 0.38 mm wide, the lobule $1/2$ or less connate with and somewhat shorter than the lobe, narrowly triangular, with 2-3 blunt teeth above middle; innermost bracteole free from the neighboring bract-lobules, oblong-ovate, ca 0.75 mm long and 0.43 mm wide, ca $1/2$ -bifid, sinus wide, lobes narrowly triangular, entire-margined, acute (or somewhat acuminate) at apices. Perianth pyriform, ca 1.2 mm long and 0.78 mm wide, ca $1/2$ -exserted, 3-keeled (keels smooth), apex retuse and shortly beaked, beak-opening crenate due to projecting cells. Androecium lateral on stem or leading branch, shortly stalked, capitate with 3-4 pairs of bracts, ca 0.38 mm long and 0.43 mm wide,

dispersed ocelli visible also in bracts.

Type: Brazil. Rio de Janeiro, Teresopolis, Nat. Park Serra dos Orgaos, im Regenwald epiphytisch, ca 1080 m alt., S-Verwimp & Verwimp 7375—holotype in NICH; dupl. in hb. S-Verwimp).

Distr.: Known only from the type collection.

The members of ser. *Fragilifoliae* are widely distributed in warm-temperate to tropical regions of the world except Australasia, where the species of the same series may be also found after a sufficient research. A total of about ten species of this series have been known. *Frullania trigona* Clark et al. known from Guadeloupe Island, West Indies, and *F. californica* (Aust.) Evs. and *F. selwyniana* Pears. are known in middle to southern North America. From Asia *F. aoshimensis* Horik. (China and Japan), *F. densiloba* Steph. (Japan, Korea, and Taiwan), *F. alstonii* Verd. (India, Ceylon to the Philippines), and *F. punctata* Reim. (China) may be enumerated. Two members, *F. fragilifolia* Tayl. and *F. microphylla* (Gott.) Pears. are in Europe (southward to Canary Islands).

Among them *Frullania trigona* is heterogeneous, as its leaf-lobes, -lobules, and underleaves have the clearly denticulate margins, and its perianth is nearly circular in outline. *F. californica* is large (with the stem up to 5 cm long) and has the large (up to 0.55 mm wide), concave (due to strongly incurved distal margins) lobes of stem-leaves and the underleaves often twice as wide as the stem. This species seems to be most closely related to ser. Tamariscineae among the ser. *Fragilifoliae* members.

As mentioned above, Brazilian *F. schaefer-verwimpii* is different from all the other members by the occurrence of dispersed ocelli throughout the leaf-lobes, -lobules, and underleaves, as well as gynoeceal and androeceal leaves. The following is a comparative key separating *F. punctata*, a probably most similar species to *F. schaefer-verwimpii*:

- 1) Dispersed ocelli present in leaf-lobes (6–18 per lobe), -lobules (2–3 per lobule), and in underleaves (2–3 per underleaf); innermost bract-lobule with 2–3 blunt marginal teeth above.....*F. schaefer-verwimpii*
- 2) Dispersed ocelli present in leaf-lobes (up to 20 per lobe), rarely forming a short row (2–3 cells long) at base, ocelli not seen in leaf-lobules and underleaves; innermost female bract-lobule entire-margined*F. punctata*

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ブラジルで A. Schäfer-Verwimp 氏採集のヤスデゴケ属の苔類標本中に、葉上片にオセルス (ocellus) を生ずる 1 新種をみつけた。この種は中国の *Frullania punctata* Reim. の 1 群によく似ているが、葉上片のみならず、下片や腹葉乃至包葉、腹包葉に至るまで ocellus が散布しているので直ちに区別が出来る。従来 sect. *Tamariscineae* に入れてあったが、このグループは小形で葉頭は円く (決してとがらず)、腹葉も小さく、幅も茎の 2 倍以下であり、タイプの属するグループと区別出来るので同 section 下の新 series とした。

□Webster, R.D.: **The Australian Paniceae (Poaceae)** 322pp. 1987. J. Cramer, Berlin, DM 120.00. オーストラリアのイネ科植物は種属が豊富で、スズメガヤ亜科やキビ亜科など光合成経路が C_4 のものが特に多く見られる。クリフードとワットソンを代表にして1970年代からイネ科植物のデータは精力的に整理され、それがコンピューターに蓄積されている。本書は完備したデータベースを駆使し、検索・記載文・分布・生態・開花期などを克明に出力している。少々見苦しい点はあるが、記述の形式がすべての種について一定であることは驚異に値する。キビ亜科の45属、種以下の308分類群が扱われ、文献・異名が要約されている。208項目にわたる特徴のうち、栄養部分に42、花序に52、小穂に104、包類に30、小花に63、染色体に1項目が割当られている。葉身の断面構造や表皮の特徴が全然取り上げられていないのは残念である。しかし、 C_4 イネ科植物を知る上で貴重な文献といえる。巻末に用いた特徴の一覧表や詳細にわたる分布図が載せられていて便利である。

(許田倉園)

□文一総合出版：日本の生物，1989年1月号(月刊誌) 82 pp. 同社(東京都新宿区西五軒町 34-8). ¥850. 長く親しまれてきた中央公論社の雑誌「自然」やニューサイエンス社の「植物と自然」が出版界から消えてさびしかったが、1987年1月に文一総合出版の「日本の生物」が発刊されて本年3年目を迎えた。毎号「私の仕事」を紹介したり、植物や動物の観察や観察法、フロラやファウナの記事があり、本号は「琉球列島の生物」の特集である。また新刊紹介や古書情報まである。個人はもちろん、小学校から大学に至る図書館に備えられれば、ナチュラリストの生まれるよすがともなる。

(木村陽二郎)